

AMENDMENTS TO THE DRAWINGS

Applicant is submitting herewith five (5) sheets of replacement drawings, which include FIGS. 2, 3, 5, 9, 10 and 11.

FIGS. 2, 3, 5, 9, 10, and 11 are hereby corrected in order to obviate the Examiner's objections cited in the Office Action, and to other correct minor errors. No new matter has been added.

Attachment: Replacement Sheets

REMARKS

Claims 1, 4-11 and 21-26 are all the claims pending in the application. Claims 1, 4-11 and 21-26 presently stand rejected.

Drawings:

The drawing figures filed on October 15, 2003 are now objected to for the following reasons:

- 1) The cross-hatching for the coils 8 and 9 in FIGS. 2 and 5 is allegedly not proper.
- 2) The surrounded member 5 in FIGS. 2 and 5 should be cross-hatched according to a magnetic material.
- 3) The first caulked part 60a in FIGS. 2 and 5 does not correspond to that shown in FIG. 9.
- 4) The views in FIGS. 10 and 11 are allegedly not cross-sections X-X of FIG. 9. In particular, the Examiner asserts that the axial groove should intersect past the circumferential groove, and some drawings show the circumferential groove end at the bottom of the axial groove.
- 5) The drawings inconsistently show the caulking with curvatures (FIG. 9 and 12).
- 6) It is not clear why the top surface of the caulked portion in the axial groove in FIG. 11 is not dented, since the bottom surface is dented.
- 7) It is not clear why the bottom of the axial groove is not shown in FIGS. 20A-20D.

Regarding items 1) and 2) Applicants amend FIGS. 2 and 5 to show the coil and magnet as requested by the Examiner to expedite prosecution of this case.

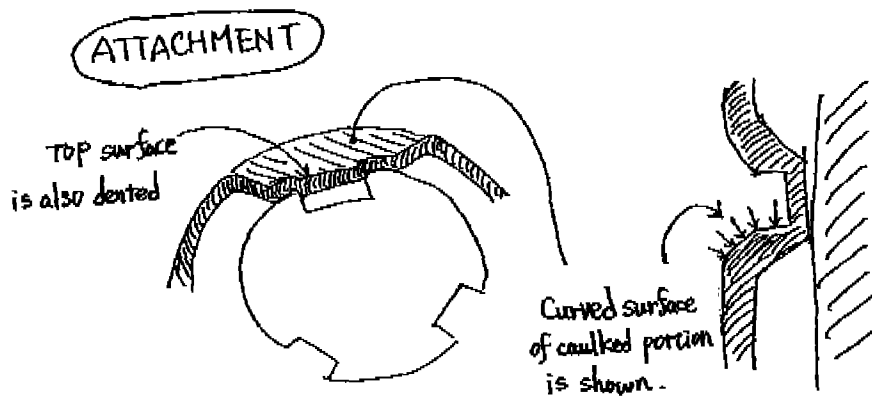
With respect to the objection 3), Applicants amend FIG. 2 to correspond with FIG. 9 which more accurately reflects the caulked part 60a of the invention.

Regarding objection 3), Applicants note that the lead line for 60a is corrected in FIG. 5.

With respect to objection 4), as shown in FIGS. 2, 3, 5 and 8, axial groove 2e intersects completely with circumferential groove 2d and extends along the **entire axial length** of the maximum outer diameter portion 2c. FIGS. 9, 10 and 11 have been corrected to more accurately illustrate this feature of the invention. In addition, FIG. 10 has been corrected to reflect the fact that the circumferential groove 2d completely surrounds the shaft (as shown in FIG. 14, for example) and FIG. 3 has been amended to correct the placement of the lead line for 2f.

With respect to objection 5), referring to FIG. 11, FIG. 12 shows a portion having the axial groove 2e and FIG. 13 shows a portion not having the axial groove 2e. At the portion in FIG. 13, the surrounding member 6 is just fitted between circumferential groove 2d and the caulker so that the shape of caulking formed in a relatively square shape as in the case of press work using male and female dies. On the other hand, at the portion having axial groove 2e as shown in FIG. 12, the shape of caulking is formed in a relatively dripping shape (caulking with curvatures) as in the case of press work using only a male die.

With respect to objections 6), the top portion of surrounding member 6 is axial groove 2e in FIG. 11 would actually be dented, but only to a small degree. That is, the dent degree of the top portion smaller than that of the bottom portion as illustrated below. It is respectfully submitted that one of ordinary skill in the art would be enabled to make and/or use the invention with the drawings including current FIG. 11, and thus, this small indentation does not need to be illustrated.



Regarding item 7), the axial groove 2e is not shown in FIGS. 20A-20D because these drawings are cut away to represent a sectional view similar to FIG. 13.

It is respectfully submitted that all of the foregoing changes to the drawings are completely supported by the originally filed specification and drawings. In each instance of a drawing change, support for such a correction can be found in an associated drawing figure illustrating the same feature.

Specification:

The disclosure is objected to because of a minor informality in paragraph [045]. Additionally, the Examiner objects to the disclosure for inaccuracies in the drawing descriptions. Applicants amend the specification to remove any ambiguities.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter of “a first shaft member” and “a second shaft member” and “the cylindrical member having a portion facing the surrounded member”. The amendments to paragraph [0033] should overcome these objections.

Claims:

Objections:

Claims 1 and 21 are objected to because of informalities. In particular, the Examiner indicates that the term “detecting” should be –able to detect--. These changes are made to overcome the Examiner’s objections. The Examiner indicates that this change has already been assumed to be made for purposes of examination of the claims, and therefore, this change should not necessitate a final rejection in the next Office Action.

Rejections under § 112, first paragraph

Claims 21-26 are rejected under 35 U.S.C. § 112, first paragraph.

Regarding claim 21, Applicants amend the claim to revert back to the previously recited “caulked portion”.

Regarding claim 25, Applicants amend the claim to further include a part of the circumferential groove adjacent to the intersection. This is supported by the FIGS. 10, 11, 14, etc. and paragraph [0053] (“...at the position corresponding to the position of intersection of two grooves, 2d, 2e, i.e. 2f and part of circumferential groove 2d.”)

Regarding claim 26, the Examiner appears to find the language confusing regarding “between caulked portions”. Applicants amend claim 26 and paragraph [0075] to remove any ambiguities.

Rejections under § 112, second paragraph

Claims 25 and 26 are rejected under § 112, second paragraph, for similar reasons to those noted above in the first paragraph rejection.

Regarding claim 25, the changes made to claim 25 to overcome the first paragraph rejection are believed to overcome this rejection under second paragraph.

Regarding claim 26, the change to claim 26 and the specification (paragraph [0075]) are believed to overcome this rejection under second paragraph.

Rejections under § 103(a)

Claims 1, 4-7, 9, 11 and 23-26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Yamanaka et al. (2003/0136604) in view of Dent (3,652,111).

Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamanaka et al. (2003/0136604) in view of Dent (3,652,111), and further in view of Fujioka et al. (4,716,756).

Claims 10 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamanaka et al. (2003/0136604) in view of Dent (3,652,111), and further in view of Edgemond, Jr. (3,642,311).

Yamanaka 2002/1036604 is used as the primary reference in each of the prior art rejections. However, Yamanaka 2002/1036604 published July 24, 2003, which is after Applicants' foreign priority date of October 15, 2002. Therefore, Applicants submit herewith a certified English translation of the priority document JP 2002-299783, in order to perfect the claim for foreign priority in the pending application, in accordance with 37 C.F.R. § 1.55(a). This should remove Yamanaka 2003/0136604 as prior art.

Since Yamanaka 2003/0136604 is used as the primary reference in all prior art rejections, removal of this reference should overcome all current prior art rejections.

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/684,684

Attorney Docket No.: Q76899

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Ellen R. Smith/

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Ellen R. Smith
Registration No. 43,042

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: November 29, 2007